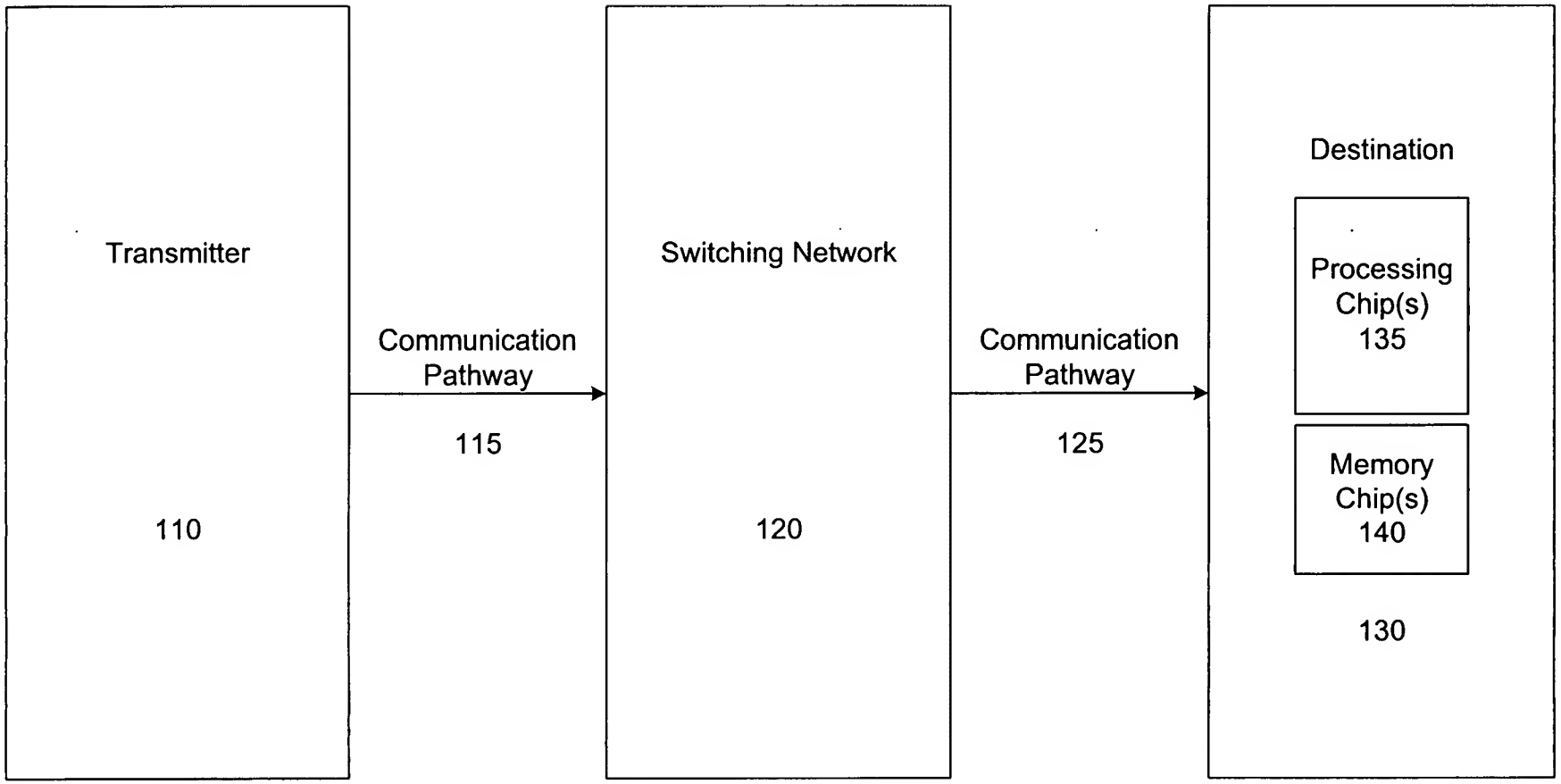
Transmitter
110
Communication Pathway
115
Switching Network
120
Communication Pathway
125
Destination
Processing Chip(s) 135
Memory Chip(s) 140
130
100

FIG. 1

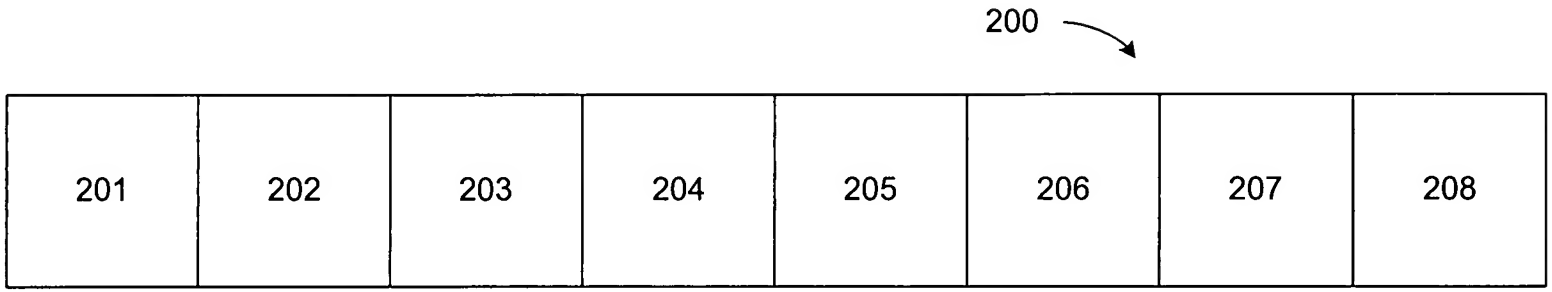
200
201
202
203
204
205
206
207
208

FIG. 2A

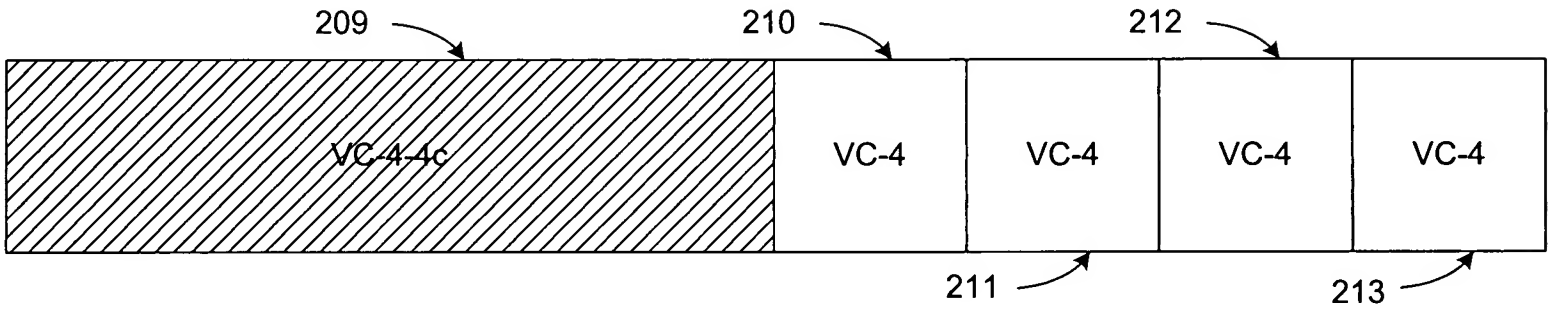
209
210
212
VC-4-4c
VC-4
VC-4
VC-4
VC-4
211
213

FIG. 2B

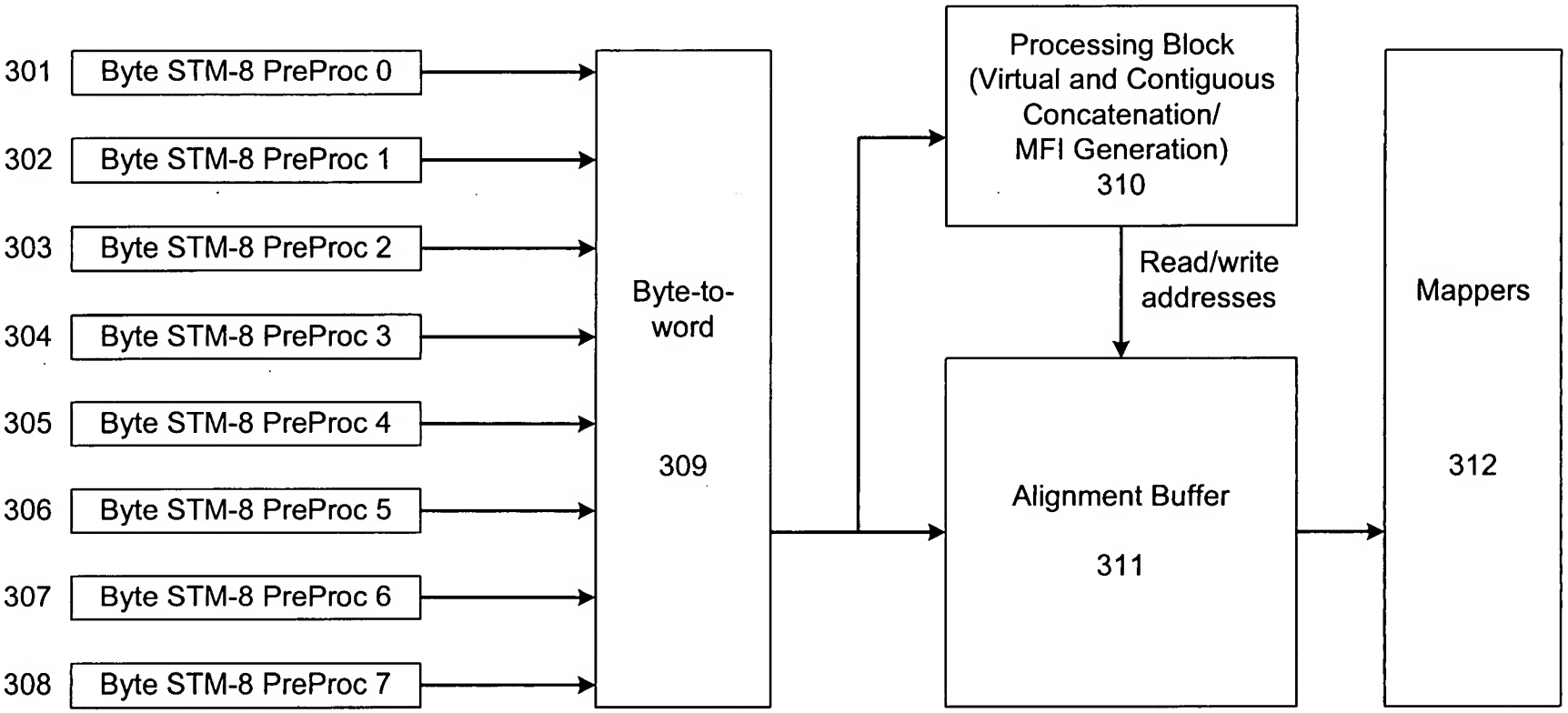
301
Byte STM-8 PreProc 0
302
Byte STM-8 PreProc 1
303
Byte STM-8 PreProc 2
304
Byte STM-8 PreProc 3
305
Byte STM-8 PreProc 4
306
Byte STM-8 PreProc 5
307
Byte STM-8 PreProc 6
308
Byte STM-8 PreProc 7
Byte-to-word
309
Processing Block
(Virtual and Contiguous Concatenation/ MFI Generation)
310
Read/write addresses
Alignment Buffer
311
Mappers
312

FIG. 3

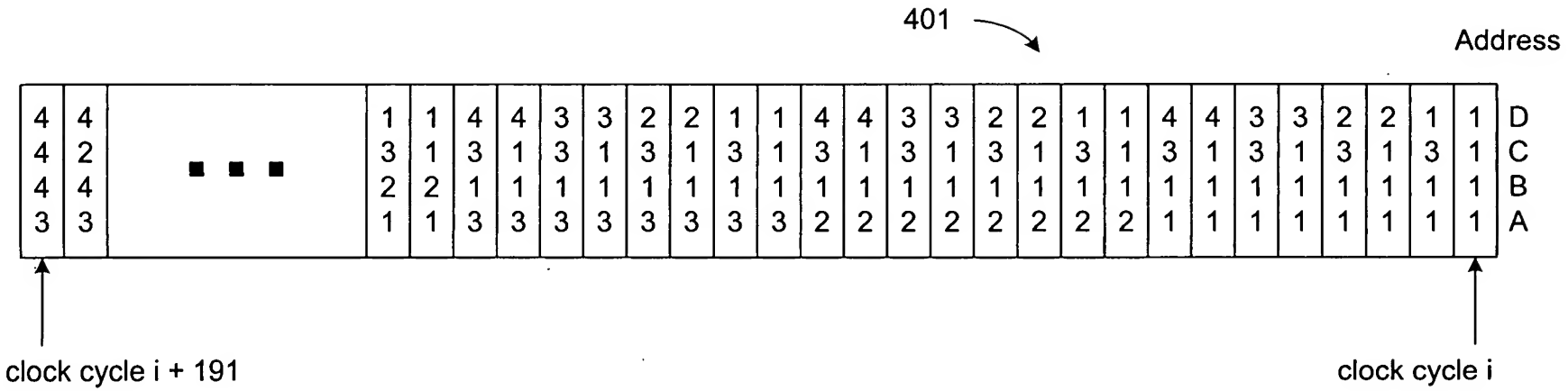
401
Address
4 4 4 4 3
4 2 4 3
1 3 2 1
1 1 2 1
4 3 1 3
4 1 1 3
3 3 1 3
3 1 1 3
2 3 1 3
2 1 1 3
1 3 1 3
1 1 1 3
4 3 1 2
4 1 1 2
3 3 1 2
3 1 1 2
2 3 1 2
2 1 1 2
1 3 1 2
1 1 1 2
4 3 1 1
4 1 1 1
3 3 1 1
3 1 1 1
2 3 1 1
2 1 1 1
1 3 1 1
1 1 1 1
D
C
B
A
clock cycle i + 191
clock cycle i

FIG. 4A

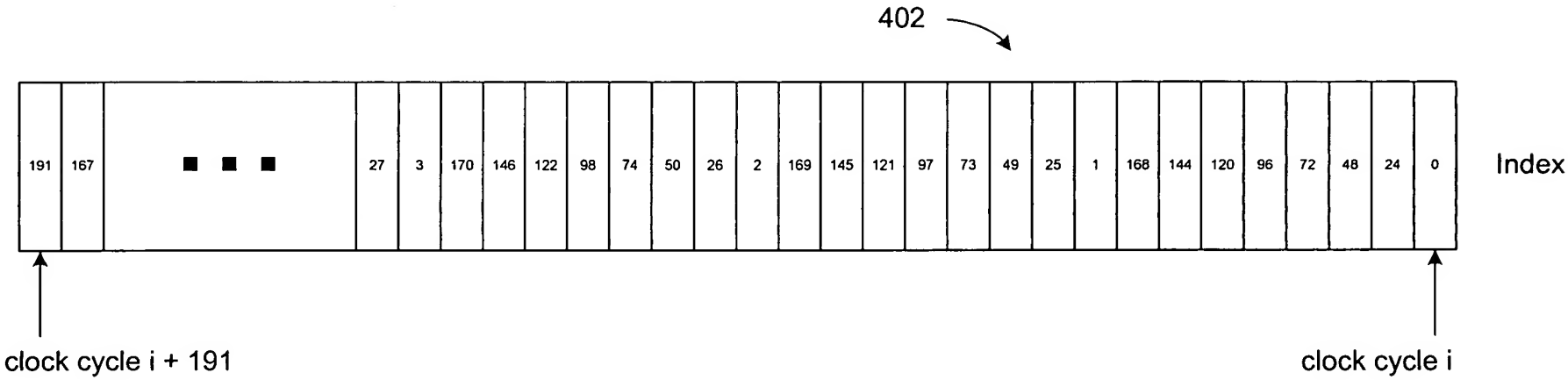
402
191 167 27 3 170 146 122 98 74 50 26 2 169 145 121 97 73 49 25 1 168 144 120 96 72 48 24 0
Index
clock cycle i + 191
clock cycle i

FIG. 4B

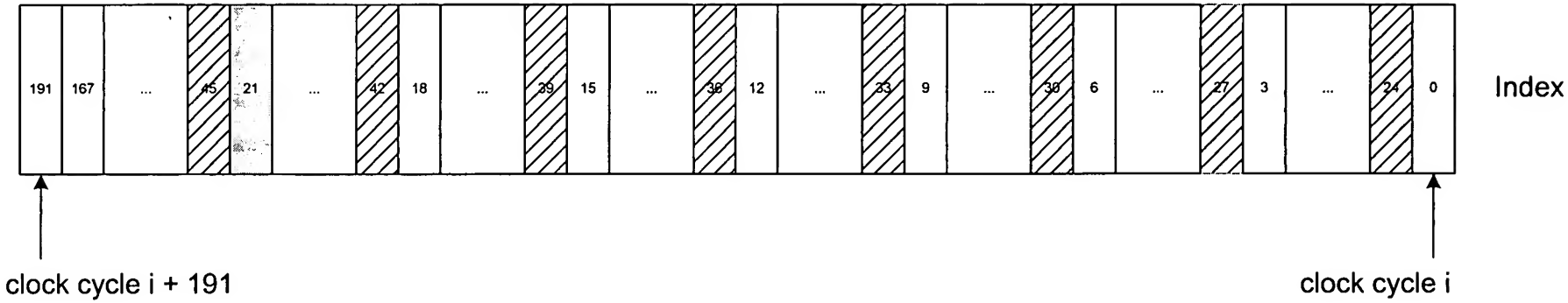
191
167
...
45
21
...
42
18
...
39
15
...
36
12
...
33
9
...
30
6
...
27
3
...
24
0
Index
clock cycle i + 191
clock cycle i

FIG. 5

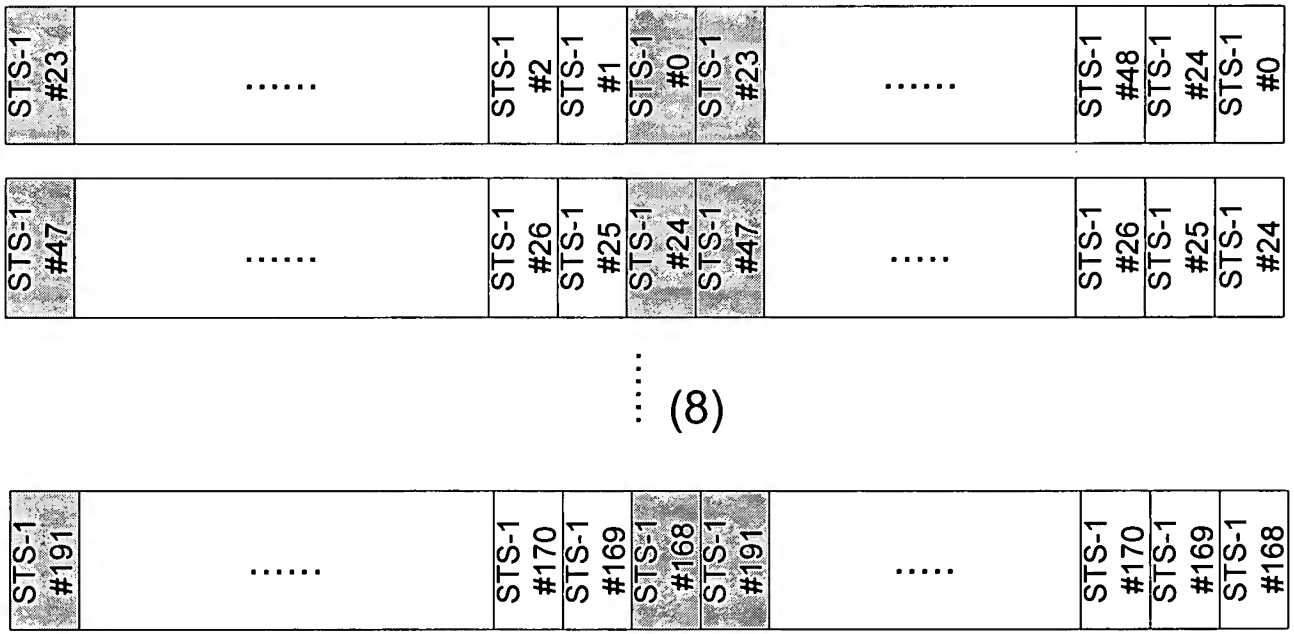
STS-1 #23
STS-1 #2
STS-1 #1
STS-1 #0
STS-1 #23
STS-1 #48
STS-1 #24
STS-1 #0
STS-1 #47
STS-1 #26
STS-1 #25
STS-1 #24
STS-1 #47
STS-1 #26
STS-1 #25
STS-1 #24
(8)
STS-1 #191
STS-1 #170
STS-1 #169
STS-1 #168
STS-1 #191
STS-1 #170
STS-1 #169
STS-1 #168

FIG. 7

```
if (current slot index is not divisible by 3) then
    if (current word number = 0) then
        MFI (current slot index) = MFI (current slot index - 1)
else if (current slot is a master slot) then
    if (current word number = 1) then
        temporary MFI (current slot index) = temporary MFI (current slot index) + 1
    elseif (current word number = 0) then
        MFI (current slot index) = temporary MFI (current slot index)
else
    if (current word number = (current slot index / 3) + 1) then
        temporary MFI (current slot index) = temporary MFI (current slot index - 3)
    elseif (current word number = 0) then
        MFI (current slot index) = temporary MFI (current slot index)
```

FIG. 6

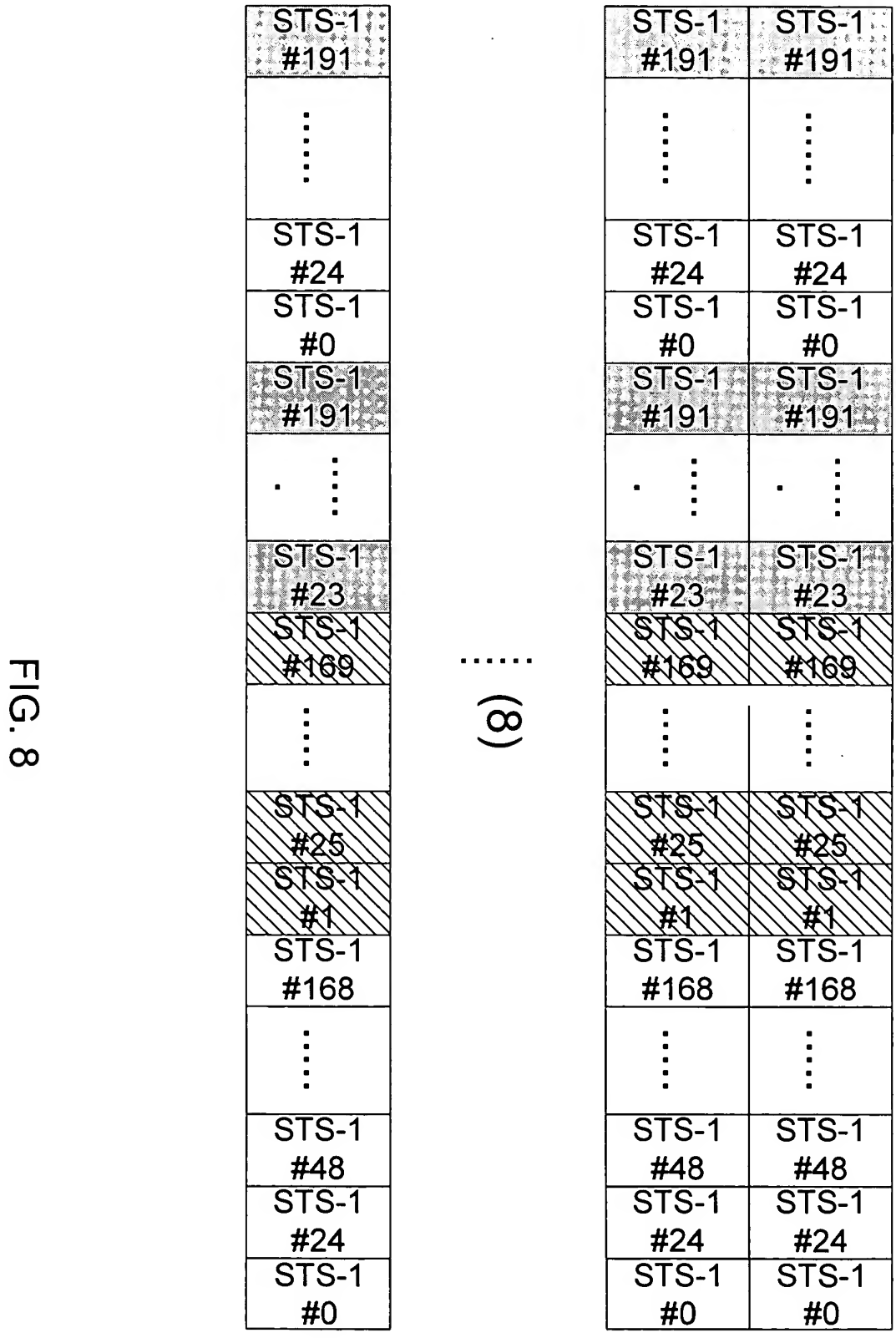
STS-1 #191
STS-1 #24
STS-1 #0
STS-1 #191
STS-1 #23
STS-1 #169
STS-1 #25
STS-1 #1
STS-1 #168
STS-1 #48
STS-1 #24
STS-1 #0
(8)
STS-1 #191
STS-1 #191
STS-1 #24
STS-1 #24
STS-1 #0
STS-1 #0
STS-1 #191
STS-1 #191
STS-1 #23
STS-1 #23
STS-1 #169
STS-1 #169
STS-1 #25
STS-1 #25
STS-1 #1
STS-1 #1
STS-1 #168
STS-1 #168
STS-1 #48
STS-1 #48
STS-1 #24
STS-1 #24
STS-1 #0
STS-1 #0

FIG. 8

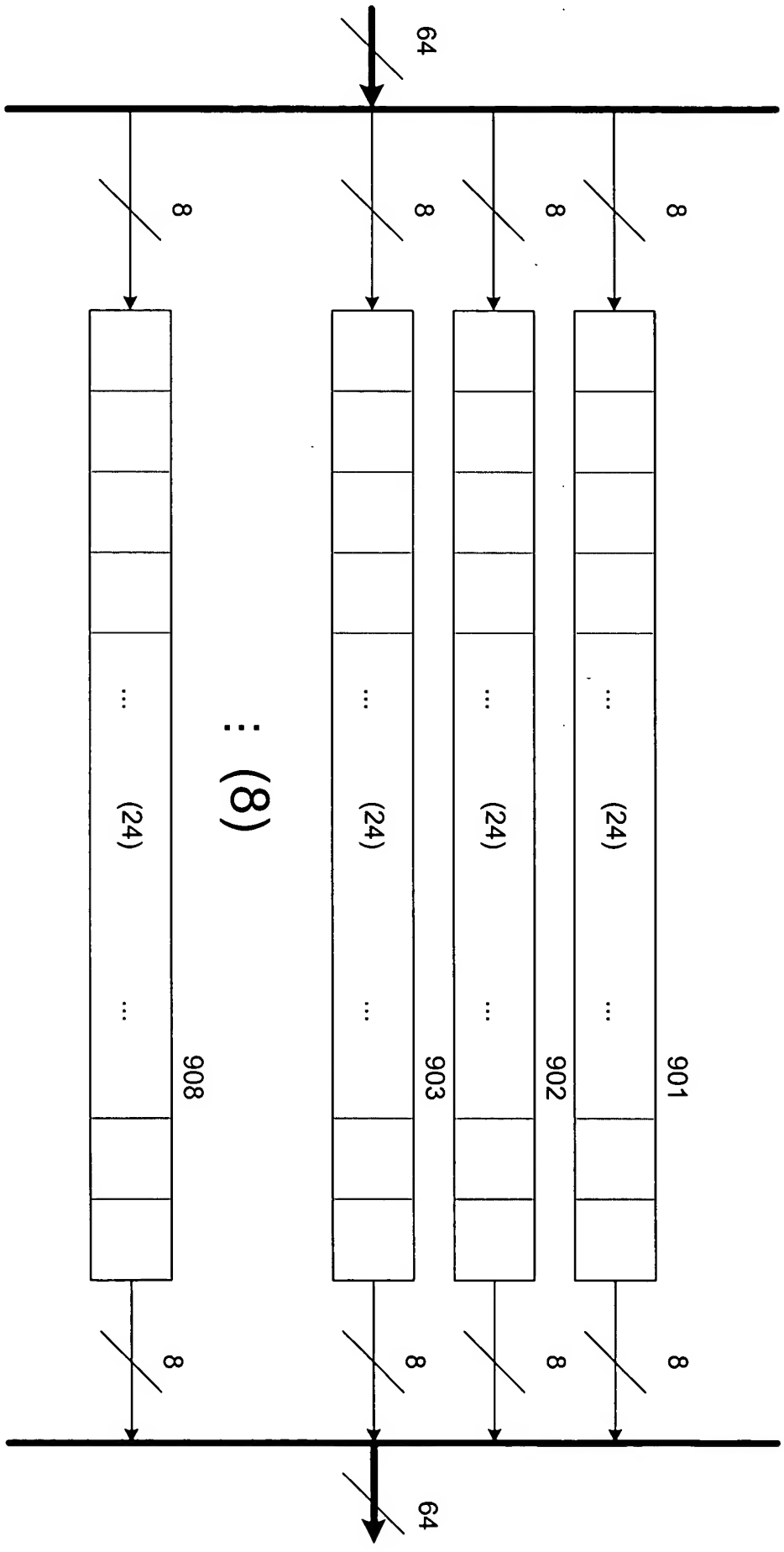

FIG. 9

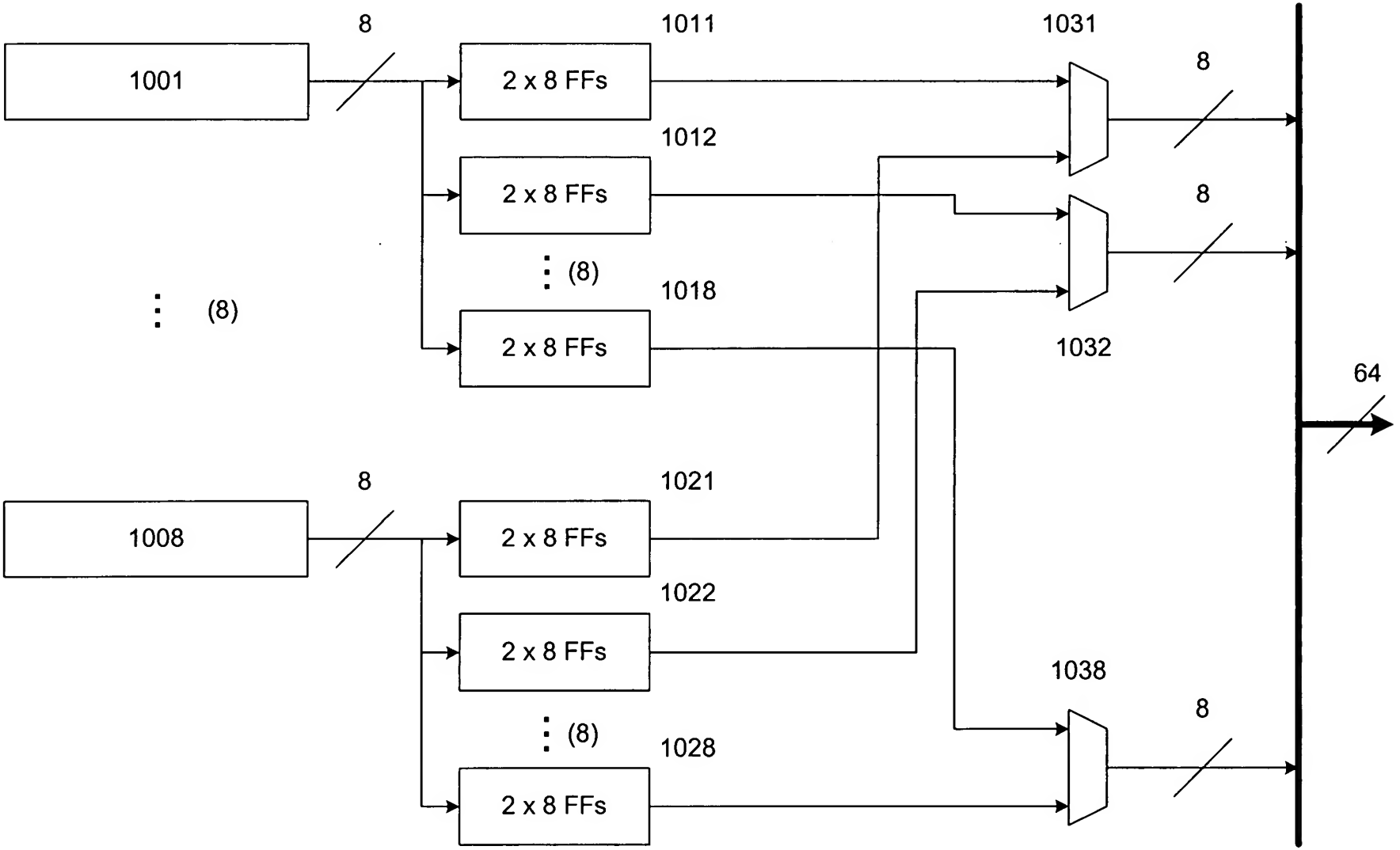
1001
8
1011
2 x 8 FFs
1031
8
1012
2 x 8 FFs
8
(8)
(8)
1018
2 x 8 FFs
1032
64
1008
8
1021
2 x 8 FFs
1022
2 x 8 FFs
1038
8
(8)
1028
2 x 8 FFs

FIG. 10

0																
24																
48																
72																
96																
120																
144																
168																

FIG. 11A

0	0															
24	24															
48	48															
72	72															
96	96															
120	120															
144	144															
168	168															

FIG. 11B

0	0	0	0	0	0	0	0									
24	24	24	24	24	24	24	24									
48	48	48	48	48	48	48	48									
72	72	72	72	72	72	72	72									
96	96	96	96	96	96	96	96									
120	120	120	120	120	120	120	120									
144	144	144	144	144	144	144	144									
168	168	168	168	168	168	168	168									

FIG. 11C

								1							
24	24	24	24	24	24	24	24	25							
48	48	48	48	48	48	48	48	49							
72	72	72	72	72	72	72	72	73							
96	96	96	96	96	96	96	96	97							
120	120	120	120	120	120	120	120	121							
144	144	144	144	144	144	144	144	145							
168	168	168	168	168	168	168	168	169							

FIG. 11D

								1	1	1	1	1	1	1	1
								25	25	25	25	25	25	25	25
								49	49	49	49	49	49	49	49
								73	73	73	73	73	73	73	73
								97	97	97	97	97	97	97	97
								121	121	121	121	121	121	121	121
								145	145	145	145	145	145	145	145
168	168	168	168	168	168	168	168	169	169	169	169	169	169	169	169

FIG. 11E

								1	1	1	1	1	1	1	1	1
								25	25	25	25	25	25	25	25	25
								49	49	49	49	49	49	49	49	49
								73	73	73	73	73	73	73	73	73
								97	97	97	97	97	97	97	97	97
								121	121	121	121	121	121	121	121	121
								145	145	145	145	145	145	145	145	145
								169	169	169	169	169	169	169	169	169

FIG. 11F

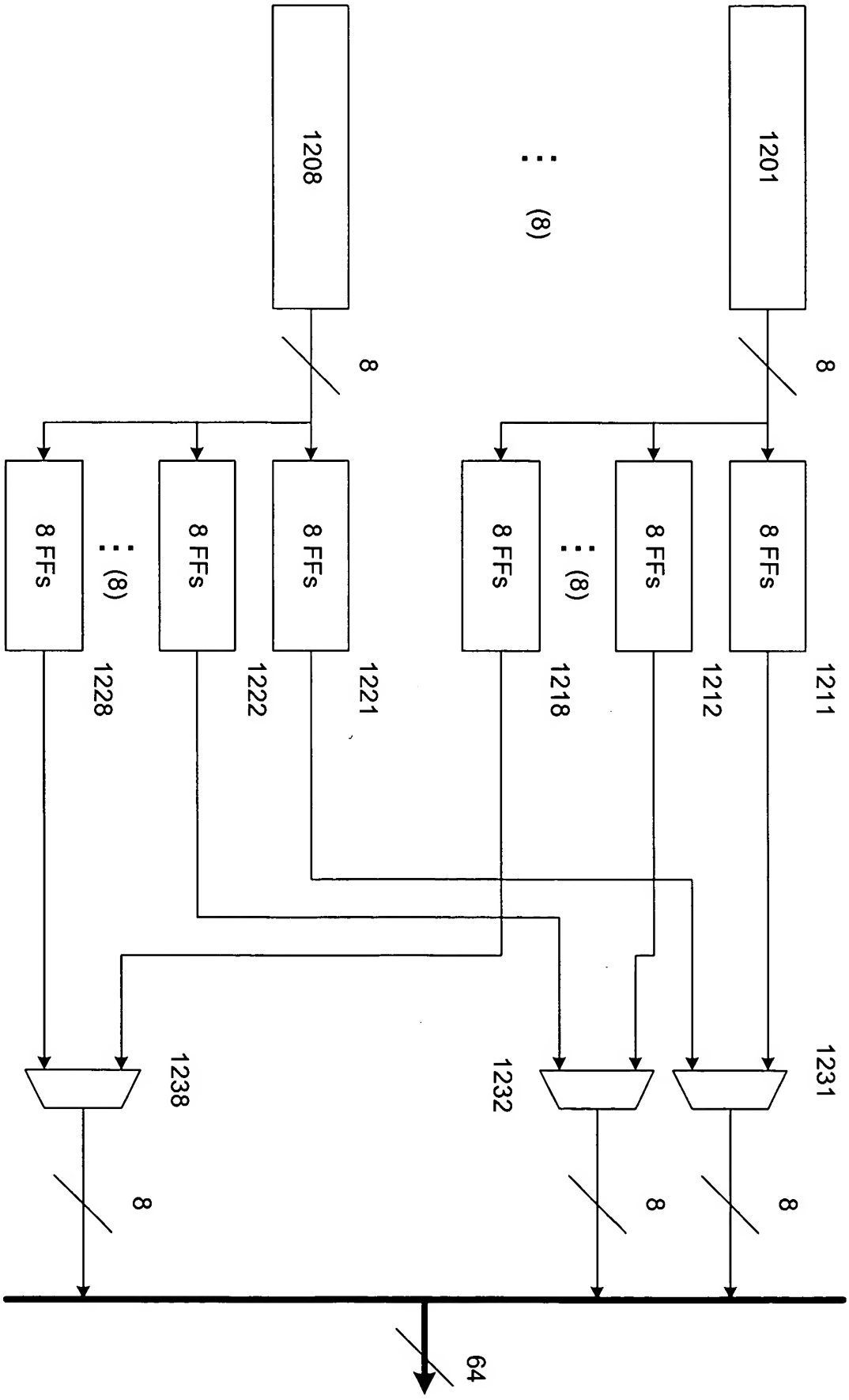
1201
1208
(8)
8
8 FFs
1211
1212
1218
1221
1222
1228
1231
1232
1238
64

FIG. 12

0							

FIG. 13A

0	0						
24							

FIG. 13B

0	0	0	0	0	0	0	0
24	24	24	24	24	24	24	
48	48	48	48	48	48		
72	72	72	72	72			
96	96	96	96				
120	120	120					
144	144						
168							

FIG. 13C

1							
24	24	24	24	24	24	24	24
48	48	48	48	48	48	48	
72	72	72	72	72	72		
96	96	96	96	96			
120	120	120	120				
144	144	144					
168	168						

FIG. 13D

1	1						
25							
48	48	48	48	48	48	48	48
72	72	72	72	72	72	72	
96	96	96	96	96	96		
120	120	120	120	120			
144	144	144	144				
168	168	168					

FIG. 13E